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AMERICAN DYESTUFF REPORTER

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By R. Norris Shreve

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AMERICAN DYESTUFF REPORTER

A Weekly Publication devoted to

DYESTUFFS, COLORS and ALLIED CHEMICALS

"Circulated Everywhere Dyestuffs are Used"

Vol. 4 New York, May 26, 1919 No. 21

SEEING SWITZERLAND

"High as the Alps in Quality" Applies to More than One Product of the Country of Cantons—Ideal Citizens and Dyestuffs Among Specialties

WHEN, some three months or so ago, while times were dull and business slow, the information came to hand that learned men from Switzerland were coming here to visit, a mild sensation ran the rounds which grew and spread by leaps and bounds till now each wagging tongue propounds the inquiry: "Why is it?" Dame Rumor has made bold to say our visitors would pave the way for canny, staid Swiss enterprise to bring some plants for making dyes within our very gates—in fact, these sons of Will'um Tell may bring machinery as well and likewise personnel to dwell in these United States.

The reader may recall to mind our demon Editor opined the Swiss would scarcely be inclined to come among us, unless the dyes we make to-day had not most clearly come to stay, with ne'er a pessimist to say: "The Germans stung us!" The Swiss, we claim, will do no harm (these words should countless fears disarm); there is no cause to take alarm at coming Swiss migration. The motives 'neath the Swiss intent are not as hostile schemings meant—but rather as a compliment!—and ground for high elation.

At any rate, the time draws near; these gentlemen will soon be here, and we, in speculative mood, forthwith will venture to conclude (with your permission) that now some dope about the Swiss might not be utterly amiss—but first please make a note of this: Avaunt, suspicion!

II

With the above section of Walt Masonry safely out of the way the reader may now give his attention with less effort to what is in some respects one of the most unique nations on the face of the earth. The country which we call Switzerland could be placed in the territory occupied by Delaware and Maryland without straining the boundary lines of these two States, and the population of the whole country is less than the population of the city of New York (3,800,000 inhabitants, of which 550,000 are foreign residents); yet this country has, upon occasion, played no small part in the world's affairs and has shown an ability to take care of itself surpassed by none of its weight and inches.

The Swiss are noted for their sturdi-

ness, thrift and independence of spirit. Every Swiss boy is raised to be a soldier, but only to do battle in case the rights and freedom of his own country are threatened by a foreign power. Hence, the Swiss are a military people, but are not in any sense of the word a militant people. The country is divided into "cantons" (*not* cantonments), or small States, of which there are twenty-two, and among the inhabitants we find no less than four different languages spoken. The rule seems to be that the people speak the language of the nearest neighboring country; thus, in the south, Italian is spoken; to the west, French; to the north and east, German, while in the single canton of Grisons, and nowhere else, "Ladin" is spoken. This last has been defined as "a laggard sister of French and Italian." Edwin A. Grosvenor says of the Swiss: "Diversity and tolerance were their characteristics from the first . . . their twenty-two small States, differing from each other in nearly every point, religious, political, social, industrial, physical and linguistic, constitute a federal republic which in maintenance of public welfare, individual rights and general harmony is unsurpassed among the political creations of all time."

When Switzerland is mentioned one immediately thinks of the Alps and mountain-climbing, clocks and watches, cheese and chocolate—and the yodlers who were billed on the Chautauqua program with William Jennings Bryan! It is quite true that the Swiss specialize in all these things. They are, however, primarily an agricultural and stock-raising people; many of their other activities are used to eke out a precarious livelihood during dull seasons. The textile industry flourishes there, laces playing an important part; education and technical instruction are well attended to, and, logically enough, the hotel business is ranked as one of the great industries of the country. They have also, be it known, a most excellent and long-established dye industry.

Naturally, this is no news to readers of the REPORTER; nevertheless, American dyestuff consumers have in many instances failed to recognize the importance of the Swiss dyestuff industry, and its benefit to themselves. For more than forty years it challenged and fought the German dye monopolists. Before the Great War began it was practically the only competition felt by the Germans. While the American industry was slowly developing during the war period it was virtually our only source of supply for coal-tar dyes, and incidentally was a large purchaser of American raw materials, thereby contributing largely to the development of the American industry as a whole.

These facts are most clearly illustrated by the history of Synthetic Indigo, which the Society of Chemical Industry in Basle was the first organization in the world to manufacture.

During the period between 1911 and 1914 American consumers benefited to the extent of millions of dollars owing to German price-cutting in a vain attempt to kill off Swiss competition in this dyestuff. The price went from 18 to 16.4 and finally to 14 cents per pound, but to no purpose. And yet the quality of Swiss Synthetic Indigo—as well as their other dyestuffs—has been unsurpassed. This, coupled with the fact that the Swiss Synthetic Indigo is half Swiss and half American, makes it wholly in order and almost a duty for American dye consumers to give Swiss manufacturers a fair share of their patronage.

The best known and most important of the Swiss dyestuff manufacturers is the society mentioned above. This establishment dates back to the year 1864—not so many years after Sir Henry Perkin discovered the first coal-tar dye—when it was founded by A. Clavel. Nine years later the name of the firm was changed to Bindschedler & Busch, while in 1885 a limited company under the present style was formed. In 1898 the aniline color works of A. Gerber & Co. in Basle were amalgamated with the

Society of Chemical Industry in Basle, while ten years later, in 1908, the Basle Chemical Works completed the present organization by joining forces.

The development of the Basle coal-tar color industry began in 1859, the year of Perkin's famous discovery of the so-called Mauvein, the first dyestuff of the safranine group.

Magenta has been manufactured at Basle since 1860 by the firm of Gerber-Keller, which was amalgamated with the Society of Chemical Industry in Basle in the year 1898, and shortly afterwards the society, at the time under the name of A. Clavel, placed Martius Yellow and Magdala Red on the market, a dyestuff showing magnificent fluorescence in alcoholic solution.

In 1878 the society took up the manufacture of Green crystals (Malachite Green) by introducing the use of lead superoxide as oxidizing agent for the transformation of the leuco compound into the dyestuff. In connection herewith Helvetia Green (sulfonated Malachite Green) and Nitromalachite Green may be mentioned. Some few years later (1883) a new and elegant synthesis of hexamethylrosaniline was found whereby the well-known Violet crystals was obtained. Closely related to this synthesis is the rational method of the technical manufacture of phosgene produced for the first time on a large scale in the workshops of the society and which has become a product of considerable importance, since it is likewise extensively used for the manufacture of various pharmaceutical products—e. g., carbonates of guajacole and of creosote. The further elaboration of the above synthesis, which was carried out in conjunction with the Badische Company, led to a new synthesis of dyestuffs of the triphenylmethane group and in rapid succession the Violet crystals was followed by Ethyl Violet, the various Victoria Blue brands (B, R and 4R), Night Blue, Auramine (produced by the action of ammonia on Michler's Ketone), further various Acid Violets (7B, 4BN, 6BN), Alkali Violet and Wool Green S.

To the same group of triphenylmethane colors must further be counted Solid Green 2B and 3B obtained in 1883 from Dichlorbenzaldehyde and Glacier Blue (1894).

Pure blue acid dyestuffs of the triphenylmethane series, not changing shade in artificial light, were obtained at this period by the Society of Chemical Industry in Basle, and the year 1892 brought the discovery of a new dyestuff of the Auramine series, the well-known Auramine G.

The society had in 1890 produced basic mordant colors of the triphenylmethane group by condensation of Michler's Ketone with pyrogallic acid. These dyestuffs, known as Violet P and Violet DP, yield violet shades fast to milling on chrome-mordanted wool.

In the year 1887 the Badische Company placed a new group of red basic triphenylmethane dyestuffs under the name of Rhodamines on the market which in their chemical constitution are closely related to the fluorescene discovered by Ad. Bayer in 1871. The first representative of this class of dyestuffs—a diphenylrhodamine—had been produced some years previously by the Society of Chemical Industry in Basle, but on account of its insolubility in water this product was of no tinctorial value. In 1888 this compound and analogous products were sulphonated and transformed into soluble violet acid dyestuffs.

A further invention of the society in 1888 was of great importance for the technical production of the Rhodamines. This new discovery proved in many other respects to be of fundamental importance, for it opened the road to the technical production of amidophenols of the benzol and naphthalene series and laid the foundation of the manufacture of a number of amidonaphtols and amidonaphtolsulphonic acids which have become exceedingly important primary mate-

rials for the production of azo dyestuffs. The invention led to the collaboration of the Society of Chemical Industry in Basle with the Badische Company in the field of Rhodamine; the G and B brands, already on the market, were followed by Rhodamine S, which possesses the peculiarity of dyeing unmordanted cotton.

By treating an alcoholic solution of Rhodamine B with mineral acid the Society of Chemical Industry in Basle succeeded in the year 1892 in producing Rhodamine 3B and Rhodamine 6G (Ethylethers of the tetraethyle- or sym. diethylerhodamine) and various other asymmetrical Rhodamines, such as Rhodine 3G (Irisamine) and Rhodine 2G, discovered 1894 to 1896 by the Basle Chemical Works. (*To be concluded.*)

With a capital of $10,000 the Goold Textile Company has been incorporated under the laws of New York to deal in textiles. Headquarters will be in Brooklyn, and the incorporators are Michael Schultz, David Tullman and Louis Schnitman.

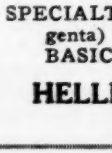
A chemical engineer in France desires to secure an agency for the sale of chemical and pharmaceutictl products and dyestuffs. Correspondence should be in French. References and further details may be obtained by addressing the Bureau of Foreign and Domestic Commerce of the Department of Commerce, Washington, D. C., or any of its branches.

THE IMPORTANCE OF BY-PRODUCTS IN ACHIEVING DYE INDEPENDENCE

By R. Norris Shreve

The war has awakened American business men and American bankers to the importance of the entire chemical industry and the financiers and business men in particular have given ungrudging support to the coal-tar dyes. As a matter of fact, some financial men have been badly bitten already by reason of venturing into this most complex field without adequate understanding of its problems and ramifications. Right here seems to me to be a field wherein the chemists can be of great service to themselves and also to the industry by guiding the American business men along the sound lines of investment, and also of development, without which the integrity of the primary investment cannot be preserved.

The dyestuff industry is one that cannot stagnate and live. It must develop or retrograde, and this development must depend absolutely upon the original research work of the chemists. As an editorial in the *Textile Colorist* says: "The dyestuff factory cannot progress, or even exist, upon the cast-off products of other factories. The history of the dyestuff industry shows that financial success follows the research laboratory, and the research laboratory only; the other path leads to failure and disaster." I feel sure that these points are apparent to any chem-



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ist who has studied this industry, but it is through the chemists that these facts must be brought home to the business men and the financiers who are directing our industry, and who, in too few cases in our country, have had chemical training and experience.

To be sure, the American business man adequately realizes that by increasing yields and qualities of products he is now manufacturing, he places his business in a position to earn greater profits or to meet more rigorous competition, but the men who are directing our industry must be brought to know that future security will come to those factories only which maintain and follow the creative work of their research chemists.

Necessity of Research

American directors of dyestuff enterprises must be brought to a realization of this most important point, and to see that dollars spent researching into the unknown along the lines shown by trained experience to be most promising will reap a golden harvest. Such has been the lesson of the past. The convincing of the managers of the dyestuff industry of this fact is as much a part of the work of our chemists as is the carrying out of the laboratory or manufacturing procedure.

The relative condition of the industry in Germany in comparison with England and other countries just before the war demonstrates the importance of this creative research work absolutely and finally.

It was not the lack of chemists in England that prevented her dyestuff industry, with its favorable start, from developing as Germany's did, for the lack of these chemists would have been supplied immediately had the demand for them appeared. Englishmen directing their dyestuff industry simply did not recognize the paramount importance of the creative research work for the permanence and development of the industry, and from being initial pioneers they became content largely to trail behind the German effort.

Since the war England has been going ahead on a more rational basis, and we in America here must take to heart the experience of the past in Germany and in England and carry through into full growth the industry of the coal-tar dyes.

Value of By-products

I feel that by the meetings of those chemists interested in dyestuffs we can go a long way toward furthering the permanent growth of coal-tar dyes in all their complex ramifications here in America. I do not mean to infer that the accomplishments of the American dye manufacturers and American chemists in recent years, and in the years since the war started, have not been worthy of pride—far from it—but I do not feel that we have been pioneers except in a most occasional instance. To be sure, the pioneering must be done along business as well as scientific lines. What may be good business for one factory with certain classes of products and by-products might be very bad business for another factory with different products and by-products.

This development of by-products is a most important one, and one that in the haste to turn out a given intermediate or dye, the American manufacturer is prone to neglect. Dr. Hesse lays great emphasis on by-products, and writes of them as follows: "Broadly speaking, the entire coal-tar industry is a complicated maze of network of interlocking and interlacing products and by-products; these are great in number but, in most cases, small in volume individually. In numerous instances the very existence of the by-products was the sole directing cause for the invention of new dyes and classes of dyes."

The American manufacturer has always tended to bulk production, and this has also been true in England. This is undoubtedly the best policy to a certain extent, but our manufacturers, especially of dyestuffs, must realize

(*Concluded on page* 11.)

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NO PIKERS NEED APPLY!

In the days of our early West, during that period following the glory of the "Forty-niners"—the days of which Mark Twain, Bret Harte and a host of others wrote so picturesquely and so amusingly—there became current an expression born of a fear that the influx of Irish immigrants which had then started would get beyond control. The expression was, "No Irish need apply!"

Times and viewpoints have changed; this expression would be laughed at to-day, and very few remember it, but it is sufficiently forceful and vivid to lend itself readily to other things.

Among the things to which it might well be applied is the subject of criticisms of the scheme for protecting the American dye industry by the appointment of a committee of four color makers and four color users to advise the War Trade Board and its successor in the matter of licensing imports of dyestuffs. And in this case we would amend it to read as given in the caption above.

As was pointed out in the REPORTER last week, there are bound to be criticisms. People are but human, and no two can see things from exactly parallel viewpoints. Even those who approve most heartily of the scheme are quite likely to see certain minor details in which it could be improved. In such cases, true greatness and breadth of vision are best proved by keeping silence. This is a free country; but just now the industry is trying to "register" harmony and singleness of purpose, to the end that those in Congress who are chary of the idea may find nothing tangible with which to oppose it in debate. Therefore, it must readily be discernible that if your criticism is of this variety it were better left unuttered, for opponents of the scheme can make capital out of the slightest evidences of doubt in the minds of its well-wishers.

On the other hand, if your criticism is something which really strikes in clean-cut fashion straight at the heart and principle of the scheme, by all means let it be heard. He who has a better plan to suggest is no friend to the dye industry if he fails to indicate it, nor will he do half as much damage to the chances of either his scheme or the original one as would a whole flock of picayune wranglers over abstruse points. More good legislation has been blocked by minority opponents, solely because well-meaning critics gave them ammunition to fire off on the floor of the State Assembly or Congress, than the general public would ever dream.

Hence, when objections to details of the proposed scheme arise within you, apply this test: If you are really a second Solomon and your scheme provides for a big, sweeping change from top to bottom—a change so logical and sound that the entire industry can be converted to it overnight—why, then, let us have it. Otherwise . . . "no pikers need apply!"

Now that Congress has convened we may look forward with interest to action resulting from the fourth resolution passed at the Chicago meeting of the American Institute of Chemical Engineers last January. The resolution referred to was: "Resolved, that the Congress be and hereby is requested to review, through the Tariff Commission or otherwise, the operation of the present Anti-Dumping Law as a preliminary to such revision and extension of its provisions as shall render it adequate for the requirements of the situation."

IMPORTANCE OF BY-PRODUCTS IN ACHIEVING DYE INDEPENDENCE

(*Concluded from page* 9.)

that they must have and offer a fairly complete line, or else the same thing will happen in America as Dr. F. M. Perkins stated happened in England, that is, the Germans came along with a newer, bigger and more complete line and took the business away from the domestic manufacturer. Therefore, this is another phase in which the chemists can contribute, namely, by so designing the plant and processes for those dyestuffs which have only a small market that they can be manufactured on a relatively smaller scale in a profitable manner. The economic laws of supply and demand, coupled with that amount of reciprocity that the law allows, will undoubtedly centralize the manufacture of those dyestuffs which have a limited market in the hands of one or two manufacturers, who will, in turn, exchange or sell these products for others for the same class manufactured in some other plant.

Looking to the Future

From time to time, here and elsewhere, with regard to the general policies of chemical plants, the remark is made, "What does it matter if we are making money?" This policy is suicidal in the long run, for continued success will only come to those manufacturers who are always looking ahead and who view planning for the future as an important part of the daily task.

The Germans, in the conduct of their very successful dye plants, entrusted their direction largely, even up to the board of directors, to technically trained men. England did not pursue that policy in the time prior to the war, although she has changed somewhat since 1914. We must not forget the old proverb, and neglect to learn from our enemy. In my own opinion, this is an important reason for the German successes, and it behooves the owners of our dyestuff industries to call into their councils continuously their technically trained chemists and engineers, and this should be carried even up to the board of directors.

All in all, the work that lies before the dyestuff chemists of America is promising as to the future, judging by accomplishment of the past, and especially of the last few years.—*Journal of Commerce Annual Chemical Review.*

JAPANESE VEGETABLE DYESTUFFS

The following trees and plants have recently been investigated, and found to have value as raw material for dyes, according to the British *Board of Trade Journal:*

Pinus densiflora (Japanese: Akamatsu).—This tree is found throughout Japan in a wild state. A dark brown dye is extracted from the leaves, which are used for cotton yarn.

Pinus Thunbergia (Japanese: Kuromatsu).—This common variety of pine gives a dark dye. A certain factory in Kajawa Prefecture extracts this dye as follows: —Ten parts of fresh leaves are added to 3.3 parts sulphur and 10 parts sulphite of soda, and the mixture is heated with water for five hours. The resulting dye commands a ready sale.

Chestnut (Japanese: Kuri).—Also a common tree. Treatment of the bark with sulphide of copper gives a dye for saddlery wares. The leaves and bark also yield a black which is used for dyeing silk Laori (outer garments). The root gives a yellow dye used in staining furniture and similar work.

Quercus dentata (Japanese: Kashewa).—This tree is found generally in Japan. From a decoction of the bark a dye material is obtained, which is used for dyeing hemp, cotton, etc., khaki color.

Quercus serrata (Japanese: Kuereyi).—The leaves are collected in September and fermented. The fermented leaves are boiled, and both yield brown and deep green dyes.

Pomegranate (Japanese: Zakuro).—The bark of this tree gives a leather dye.

Pasania cuspidata (Japanese: Shii).—A dye for fishing nets is made from this tree.

Camellia Japonica (Japanese: Tsubaki).—The leaves when pressed fresh yield a green which is used in dyeing mosquito nets.

A tree called in Japanese "motekoka."—The leaves give a light brown dye.

Myrica rubru (Japanese: Yamaromo).—The juice extracted from the leaves and bark gives a dye used for fishing nets, also a bottom for Indigo dyeing. It is used in dyeing khaki uniform cloth.

Euleurites cordata (Japanese: Aburagiri), *Quercus gilve* (Ichii), Pagoda Tree (Enju), *Juglans sieboldii* (Quigurumi), *Raphiolepis Japonica* (sharimbai), and several other trees yield dye materials from their leaves, bark, or roots.

Of plants from which dyes may be extracted may be mentioned the *Swertia chinensis* (Tenburi), *Lespedeza pilosa* (Neko-hagi), and *Coptis* (Oren).

SAYS GERMAN COLOR MAKERS ARE READY FOR BUSINESS

Germany is seeking to regain its grip on world trade through its dyestuff plants, according to Major T. W. Sill, of the Chemical Welfare Service, in an interview with a representative of the New York *Tribune*. Major Sill had just returned from a visit to the occupied German territory along the Rhine, where the most important of the Teuton chemical strongholds are found. He was a member of an inter-allied commission appointed to investigate the production of war materials in the German chemical plants in the areas occupied by the American, British, French and Belgian forces.

Major Sill found the dye factories undamaged by the air raids of the Allies and any other results of the war, with machinery in perfect condition and with an adequate personnel of scientific experts and of trained operatives ready on the ground to turn their entire activities into the manufacture of colors and medicinals.

"No more striking evidence of Germany's conviction that she would eventually win the war and of her intentions then to begin to regain her commercial markets," Major Sill said, "could be afforded than the fact that even with the tremendous burdens thrown upon these plants for the production of explosives and poison gases, nevertheless certain portions of the plants were reserved and utilized for the continued production of dyestuffs and synthetic medicinals, resulting in an accumulation of large stocks of material which are to-day ready for the commercial warfare.

"At the present time these plants are only operating at about 10 per cent of their normal peace-time production, the principal reason being the lack of necessary raw materials. They retain, however, most of their working personnel, who are at present simply employed in keeping the

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plant clean and orderly. One of the plant directors stated that his firm was spending 1,000,000 marks a week simply to keep the labor employed. This is more or less of a protection measure, taken to keep the men out of labor difficulties and demonstrations, but as soon as they should be allowed to receive the necessary amounts of raw materials they stand ready to resume operations immediately. It would be readily possible to increase their previous large production of dyestuffs by utilizing the quantities of new equipment, machinery and buildings erected for extra war work, as this would entail only slight modifications."

Major Sill said that at the present time the only apparent handicap to the resumption of operations in these plants on a large scale is the lack of oils and greases for lubrication of the machinery.

AMERICAN SUMAC

By F. P. Veitch.

(U. S. Department of Agriculture.)

Sumac grows wild and abundantly on uncultivated lands in North America. At present large amounts of sumac are allowed to remain ungathered each year, while vegetable tanning materials of similar nature are quite extensively imported. This native tanning and dyeing material should be more completely utilized, and also improved in quality to serve as a check on the rising cost of like tanning and dyeing materials, to lessen our dependence on foreign countries, and to give the country people in certain sections an additional source of employment. The important tannin bearing species of sumac indigenous to North America may be readily recognized.

Analyses of a large number of samples gave for the leaves and leaf stems the following average tannin content: Dwarf sumac (*Rhus copallina*), 28.95 per cent; white sumac (*Rhus glabra*), 25.14 per cent, staghorn sumac (*Rhus hirta*), 27.66 per cent. The tannin content of the stalks was found to be 7.77 per cent, 6.84 per cent, and 7.07 per cent, respectively.

An estimate by the Bureau of Chemistry gave a calculated yield from thick uniform stents of 4,864 lb. green weight, or 1,621 lb. cured, of sumac to the acre. In no case should be an able-bodied man be satisfied with less than 200 lb. of cured sumac for his day's work. The total loss in weight of the mixed sumac leaf and stalks from gathering until it reaches the extract maker probably averages very close to 60 per cent. The extracted sumac has some value as a fertilizer for use on land deficient in organic matter.

Properly gathered and cured domestic sumac leaves contain practically as much tannin as the imported Sicilian sumac, and will yield an extract much better in color and quality than that obtained from the domestic sumac as generally prepared at present for market. An appeal is made for more cooperation between gatherers, dealers and extract makers.

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Nitric Acid
Muriatic Acid
Nitre Cake
Salt Cake
Lithopone

ITALIANS NEED AMERICAN EQUIPMENT TO PRODUCE DYES

By Consul Joseph Emerson Haven.

Practically all aniline dyes imported into Italy prior to the war originated in Germany, and there was always a large demand in the Italian market for same on account of the excellent qualities and low prices.

At the outbreak of hostilities large stocks of aniline colors were on deposit with the various Italian firms, but these stocks were immediately purchased at prohibitive prices by the principal factories, thus leaving the market completely without dyestuffs.

Several manufacturers attempted to furnished by Germany; but after a produce aniline colors similar to those series of experiments and financial losses, a poor red and reddish black, not at all "fast," were obtained, which buyers reluctantly were forced to accept.

Local dealers and importers of aniline colors have experienced much difficulty in inducing customers to accept unknown qualities of dyestuffs of foreign manufacture, after their having used the fast and reliable German products and the unsatisfactory dyes of national manufacture.

The managers of several new plants for the manufacture of aniline colors have declared that their nonability of producing solid guaranteed colors was due to the lack of proper machinery, which had not been imported because of the previous high rates of exchange and difficulties in ocean transit.

A market for American-made aniline dyes can only be established in Italy after personal investigation and demonstration of the products offered in order that the consumer be convinced that the American product is equal to that of German origin, as at present there is a strong prejudice in favor of German dyes.

The opinion has been expressed in this district (which is one of the most important manufacturing centers) that were an American concern to establish a branch factory in Italy the product could be easily sold and at good prices.

There is also a good market for machinery, which should be investigated.

The system of selling goods in deposit and quoting prices in lire is much in favor with the Italian firms, and it would be well for American concerns to consider this established custom in endeavoring to develop a trade with Italy in aniline dyes.

GOVERNMENT CHEMISTS HAVE NEW PROCESS FOR SULPHONIC ACIDS

The Department of Agriculture announces that the Color Laboratory of the Bureau of Chemistry has developed, on a laboratory scale, a new process for the manufacture of certain sulphonic acids. This process, as carried out in the laboratories, appears so promising that it is thought that some manufacturers of chemicals and dyestuffs in this country may be

Brilliant Orange D. P.
Ponceau Scarlet
Chrome Red
Acid Yellow
Fast Chrome Blue Black
Fast Chrome Navy Blue
Bismark Brown (Red Shade)
Chrysoidine (Red Shade)
Naphthol Green

Manufactured by

DYE PRODUCTS & CHEMICAL CO., Inc.

200 FIFTH AVE, NEW YORK WORKS: NEWARK, N. J.

able by means of it to supply their demands for these and other valuable compounds, provided the process can be reproduced upon a technical scale so as to obtain results commensurate with the laboratory investigations. The process refers particularly to the sulphonation in the vapor phase of benzene, naphthalene and other hydrocarbons.

With a view to helping the chemical industry of this country, the Department of Agriculture hereby announces that it is ready to assist manufacturers who wish to produce these compounds. The expenses of the technical installation and of the labor and materials necessary will of necessity be borne by the firm, individual or corporation wishing to manufacture the products. The chemists of the Color Laboratory will assist with expert advice, etc. The Department reserves the right to publish all the data obtained from the technical experiments.

This offer of assistance will not be held open by the Department for an indefinite period.

BARRETT COMPANY RECEIVES POSTAL 42 YEARS ON WAY

A postcard mailed in Buffalo forty-two years and six months ago has been delivered at its destination, the New York offices of the Barrett Chemical Company, 17 Battery Place. This time, says the New York *Sun*, Mr. Burleson is rather to be complimented than blamed, for seventeen Postmasters-General have come and gone since the card was started on its way, and not one of them was able to end its travels successfully until Mr. Burleson, the well-known expeditor, took a hand.

It is a card relating to business matters, postmarked Buffalo, November 16, 1877, and addressed to the Warren Chemical and Manufacturing Company, 88 Maiden Lane, New York. The Warren company was long ago absorbed by the Barrett Company. A recent attempt was evidently made to deliver the card in Long Island City, where the Warren company used to have a factory, for it bears a Long Island City postmark dated 1919. Thomas M. Rianhard, vice-president and general manager of the Barrett Company, believes that it has laid for a long time in a letter copying press somewhere, for a blurring of the handwriting, which it in ink, indicates this.

The running time for trains between New York and Buffalo is about eleven hours.

Announcement was recently made by the Botany Worsted Mills that Ferdinand Kuhn has been elected president of the concern with the approval of Alien Property Custodian Francis P. Garvan. Mr. Kuhn has been connected with the company for more than twenty years, and has assumed active management.

American Aniline Products, Inc.
80 FIFTH AVENUE, NEW YORK
Works: Nyack, N. Y.

Amanil Colors for Cotton
Union Colors for Mixed Goods
Amacid Colors for Dress Goods

FOR MEN'S WEAR:

Amacid Chrome Colors
Alizarine Navy Blue
Alizarine Chrome Red
Alizarine Yellow
Alizarine Brown

Basic Colors

Offices: Boston, Mass.
Philadelphia, Pa.
Danville, Va.
Chicago, Ill.

LACK OF RAIN HALVES PROSPECTIVE INDIGO CROP

The Indian Department of Statistics has issued its final memorandum on the 1918-19 indigo yield, placing the total area under this crop at 300,700 acres, or 58 per cent below the finally revised acreage for 1917-18, and the total output at 88,300 hundredweight (of 112 pounds), or only half that of last year. Details for the Provinces follow:

Provinces	Area 1917-18 Acres	Area 1918-19 Acres	Yield 1917-18 Cwt.	Yield 1918-19 Cwt.
Madras	324,400	149,100	42,900	28,800
Bihar and Orissa	86,700	64,200	10,200	6,300
United Provinces	190,200	50,700	17,400	3,800
Punjab	90,700	19,000	15,500	3,300
Bombay and Sind (including Native States)	11,600	7,600	1,800	1,100
Bengal	7,000	10,100	500	800
Total	710,600	300,700	88,300	44,100

The department states that the season, on the whole, has not been favorable for the indigo crop, owing mainly to deficient rainfall.

The Novelty Cleansing and Dyeing Company has been incorporated with a capital of $10,000 under the laws of Massachusetts to engage in cleansing and dyeing, and also the manufacture of women's and children's clothing. the concern will be located in Boston.

CONSULT US

About Your Dyeing Problems

The services and advice of an expert chemist and a well equipped laboratory are at your disposal without cost, except when special research or experimentation is necessary, when the charges will be of a minimum nature.

AMERICAN DYESTUFF REPORTER

470 Fourth Avenue, New York City

INQUIRY DEPARTMENT

All classes of chemical work or advice relating to artificial colors, natural dyestuffs, dyewoods, raw materials, extracts, intermediates, crudes, or dyeing chemicals and accessories in general, will be carried out for readers and subscribers of the AMERICAN DYESTUFF REPORTER by this department.

Inquiries of a minor character will be answered on this page, while major matters involving personal investigation, analyses, perfected processes and working formulas, will, if desired, be treated confidentially through the mails. All questions, materials for analysis or letters leading to the opening of negotiations for special work will receive prompt attention if addressed to Inquiry Department, American Dyestuff Reporter, 470 Fourth Avenue, New York City.

C. H. S.—Question—Will you kindly inform me just how I may determine to what class a dye belongs?

Answer—Commence your examination by making the following four tests and send me your results, and will send you further tests for its identification.

1. Soluble in water, and not precipitated by alcohol; 2. Soluble in water, but precipitated by alcohol; 3. Insoluble in water, but soluble in alcohol; 4. Insoluble in water and alcohol.

J. McC.—Question—What is the new color, Erie Fast Red FD, which was announced last January by the National Aniline & Chemical Company?

Answer—This color is identically the same from a chemical standpoint, but slightly bluer than the one formerly manufactured at Buffalo, known as Niagara Fast Red FD, and imported before the war as Diamine Fast Red FC, and Oxamine Fast Red F.

Subscriber—Question—Do you know any commercial uses or outlets for the iron oxide sludge obtained in an aniline reducer?

Answer—We are unable to discover any commercial application or market for your by-product, and are of the opinion that none exists at present. Further information regarding this material might be obtained from an analysis, which we should be glad to undertake on payment of a small fee, but we doubt whether the results would justify such a step.

B. C. B.—Question—How can we determine the moisture and ash in samples of Naphthol Yellow?

Answer—For moisture, dry two grams of the finely powdered dye in an air oven (regulated at 125 deg. Cent.) to constant weight. The ash is determined by ignition of the above dry residue, in a Gooch crucible at low redness, followed by cooling and weighing.

To provide for business expansion the New England Hosiery Company, Providence, Rhode Island, has increased its capital from $10,000 to $50,000.

A limited number of samples received for analysis, and working formulae furnished for their reproduction.

Confidental advice to chemists, superintendents and assistants, on matters pertaining to the industry.

Dr. Charles B. Davis
Care of American Dyestuff Reporter
469 West 152nd St., New York City

NOTES OF THE TRADE

To manufacture dyes, compounds, chemicals and starches for textile fabrics, the Southeastern Dyestuff Company has been incorporated under the laws of Georgia with a capital of $25,000. Headquarters will be located in Atlanta.

To perform general piece dyeing and the finishing of silks and other textile fabrics, the General Piece Dyeing Company has been incorporated under the laws of New Jersey at Paterson. The capital of the new concern is announced at $125,000.

The Melville Woolen Mill, located at Chambersburg, Pa., now operated by Zabriskie, Gammon & Company, will in future be operated as the Chambersburg Woolen Mills Company.

Plans have been completed by the Knight Woolen Mills, Provo, Utah, for the installation of a finishing department in a new building 40 x 200 feet.

Three hundred looms for the manufacture of sheetings will be installed in additions to be erected to the plant of the Standard Textile Products Company, Mobile, Ala.

The total number of employees in the hosiery dyeing and finishing trade in England was roughly estimated as 4,745 in 1915, but a more recent estimate from a labor source puts the number of workers in this branch of the industry (organized and unorganized) at from 6,000 to 7,000.

The price received for the eight thousand shares of the capital stock of Merck & Company, which were recently sold at auction by Alien Property Custodian Francis P. Garvan, was $3,750,000. The total stock of this company is ten thousand shares. The purchaser was the McKenna Corporation.

F. Kauffman, 501 Broadway, New York City, has been appointed representative in that city of the E. I. du Pont de Nemours Export Company, the incorporation of which, with a capital of $1,000,000, was recently announced.

Plans are being prepared for the immediate rebuilding of those portions of the plant of the Mallinckrodt Chemical Works, Morris Canal and North Stegman Streets, Jersey City, which were recently damaged by fire.

At an estimated cost of $10,000, the Crystal Chemical Company, 867 Westchester Avenue, New York City, will make alterations and improvements to its two two-story brick factory buildings at Willis Avenue and One Hundred and Thirty-fourth Street.

With a capital of $75,000, the Ammann Dye Works has been incorporated under the laws of New Jersey to take over and operate the business formerly conducted by Emil K. Ammann. The office of the concern is in Paterson, that State.

R. Lechner Co., *Inc.*
Specialists in Dyestuffs, Dyewood Extracts, Etc.
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We urge that the Textile Industry support the stand of the American Dyestuff Reporter for an American Dyestuff Industry.

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Mr. Fred Wetzel

wishes to announce that he is now
doing business under the name of the

Wetzel Dye & Chemical Company

131 East 23rd Street, New York City

Telephone, Gramercy 2695

Mr. Stuart M. Chambers, well known in the textile trade, has joined this organization as sales manager and will lend his special attention to all laboratory work.
The new concern will deal in Aniline Dyes, Heavy Chemicals, Drugs, Pharmaceuticals, Soaps, Oils, etc.

Specialties:

Hydrosulphites **Kaolin** (China Clay) **Cocoanut Oil**

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Dyestuffs and Intermediates	*Produced by*	Central Dyestuff and Chemical Co. Newark, N. J.

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CHARLOTTE, 210 South Tryon Street